

Patent
Docket No.: 1200212 RCE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:

Daniel M. Martelli

Serial No.: 10/677,713
Filed: October 2, 2003

For: MOLDED PRODUCTS WITH
MATTE FINISH AND METHOD
OF MAKING SAME

Group Art Unit: 1772

Examiner: A. Chevalier

VIA EFS Web Confirmation No.
9171

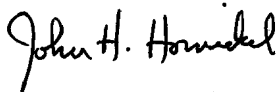
Appeal Brief

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action, made Final, mailed on June 12, 2008,
Appellant files his appeal brief. Appellant will pay the filing fee as a part of the EFS-
Web filing process. If any other amount is required, the Office is authorized to charge
Deposit Account No. 07-1077.

Respectfully submitted by:



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I hereby certify that this paper is being transmitted to the United States Patent and Trademark
Office on the date shown below to the EFS-Web in Private PAIR:

October 24, 2008
Date

Signed /John H. Hornickel/
John H. Hornickel, Reg. No. 29,393

TABLE OF CONTENTS

	<u>Page No.</u>
Real Party in Interest	3
Related Appeals and Interferences	3
Status of Claims	3
Status of Amendments	3
Summary of Claimed Subject Matter	4
Grounds of Rejection to be Reviewed on Appeal	6
Argument	7
Claims Appendix	11
Evidence Appendix	13
Related Proceedings Appendix	14

REAL PARTY IN INTEREST

This application is assigned to PolyOne Corporation, a corporation organized under the laws of the State of Ohio and having its headquarters at 33587 Walker Road, Avon Lake, Ohio 44012.

RELATED APPEALS AND INTERFERENCES

Appellant, his Assignee, and its Legal Representative do not know of any other prior or pending appeals, judicial proceedings or interferences which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

Claims 1-4, 6, 8-10, 13, and 15-18 are pending and on appeal. All but Claim 15 are rejected under 35 USC §102(b). Claim 15 is rejected under 35 USC §103(a).

STATUS OF AMENDMENTS

There are no amendments pending. The Claims in the Appendix embody this status.

SUMMARY OF CLAIMED SUBJECT MATTER

The claimed invention concerns a molded product having an **outer** surface with a matte finish. (Page 2, Lines 13-14) "Matte finish" is defined as a lusterless surface. (Page 2, Line 17). The matte finish in this invention is produced by the combination of (a) the use of an etched mold in which the product is molded to *physically affect* the **outer** surface and (b) a colorant compounded in the product to *chemically affect* the **outer** surface. (Page 2, Lines 13-16, emphasis added).

The molded product can have one area with a matte finish and another area without. (Page 3, Lines 7-15). The thermoplastic can be transparent, semi-transparent, or translucent. (Page 3, Line 30). Specific types of thermoplastic resins listed in Claim 4 are PET, PETG, SAN, GPS, and PC, and combinations thereof. (Page 4, Lines 1-4 where the abbreviations are identified). The colorant, now also in the claims known as light-diffusing particles, because of an amendment to the specification previously of text incorporated by reference, can be any form of powders, fibers, whiskers, platelets, flakes, aggregates, agglomerates or mixtures of these. (Page 2 of April 11, 2006 Amendment which added text after Page 5, Line 4). The light-diffusing particles have an average maximum particle size of about 0.1 to about 200 microns. (Page 3 of April 11, 2006 Amendment which added text after Page 5, Line 4)

The light-diffusing particles are selected from the group consisting of naturally occurring calcium carbonates, ground or fiber calcium sulfates; silicates; talc; kaolin; mica flakes, platelets and pearls; natural silicas; fumed silicas; titanates; barium sulfate; sulfides; metallic oxides; aluminum diboride flakes; inorganic fibers; single crystal fibers; short fibers; organic flatting agents; and mixtures of any of the foregoing. (Pages 2-3 of April 11, 2006 Amendment which added text after Page 5, Line 4)

The etched pattern has depressions ranging from about 0.5 μ m to about 10 μ m and a surface area comprised of lands and depressions and wherein the ratio of depressions to lands in the surface area can range from about 1 to about 90 percent.

(Page 6, Lines 3-7). The ratio of depressions to lands in the surface area can range from about 50 to about 80 percent. (Page 6, Lines 7-10).

The etched pattern can be microreplicated. (Page 5, Line 14)

The molded product is in a useful form selected from the group consisting of packaging, containers, cosmetics, housewares, toys, outdoor furniture, computer and printer housings, jewel boxes, vases, light fixtures, backlighting, signs, buttons, and personal electronic products. (Page 7, Lines 11-16).

Grounds of Rejection to be Reviewed on Appeal

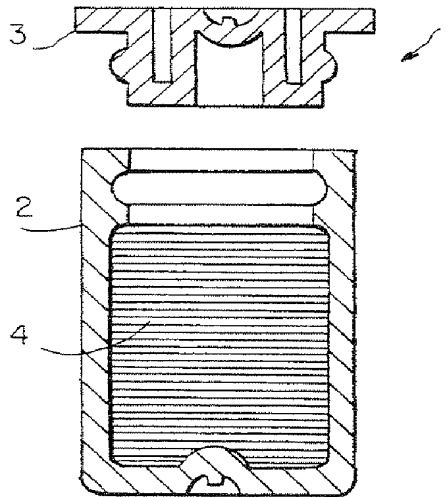
1. Claims 1-4, 6, 8-10, 13 and 16-18 were rejected under § 102(b) using U.S. Pat. No. 5,384,173.
2. Claim 15 is rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 5,384,173.

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ARGUMENTS

1. Claims 1-4, 6, 8-10, 13 and 16-18 were rejected under § 102(b) using U.S. Pat. No. 5,384,173.

Appellant believes this entire appeal comes down the simple issue whether an *inner* peripheral wall can be an *outer* surface. Fig. 1 of Patent '173 is shown below. Please note the smooth *outer* surface of container body 2 of photographic film container 1. Please note the "roughened face" 4 of the container 1 on the *inside* peripheral wall.



The text of Patent '173 supports the visual evidence. Please see Col. 1, Lines 47-51.

The present invention provides a container for a photographic film which has achieved the above object, comprising a container body being made of a thermoplastic resin having a roughened face 0.001 to 5 μm in height of roughness on the inner peripheral wall portion.

The roughness is on the *inner* peripheral wall portion.

The problem articulated by the inventors of Patent '173 explains why the inner peripheral wall portion matters, and the *outer smooth wall* of container 1 does not. Please see Col. 1, Lines 12-25 on the next page. The inventors made a further

improvement for rapid mold release, but the key point is that the inventors were trying to reduce cycle time during manufacturing.

The inventor found that, when the peripheral wall portion is formed smooth, the inside of the container body has reduced pressure conditions the mold core is removed. As a result, when the mold core is taken out 15 prior to the container body being completely solidified, a bursting pop sound, a bottom sink mark (a deformation of the bottom portion toward the inside of the container body), or buckling (which is warping of the peripheral wall portion towards the inside) occur. Accordingly, in order to avoid the occurrence of defective 20 units, it is necessary to extend cooling time up to the temperature of container body lower than 20° C. before the mold core is taken out. As a result, the molding cycle becomes long. 25

The inventors of Patent '173 did not care one iota about the *outer smooth* surface of the film container. But Appellant most certainly does.

Appellant's claimed invention is all about an outer surface with matte finish having tactile texture and light-diffusing particles.

The colorant or light-diffusing particles provide the chemical approach for diffusing light. In the colorants industry, these light-diffusing particles are called "frost colorants" because they impart a frosted appearance to the molded article, whether made from a transparent resin, a semi-transparent resin, or a translucent resin with the frost colorant mixed in. Other industries such as glass windows or light bulbs employ a frosted appearance, but in the thermoplastics industry, the use of a frost colorant (light-diffusing particles) in the bulk of the thermoplastic molded product is the chemical manner to obtain a frosted appearance in the plastic. Almost all shampoo bottles sold in this country have a frosted appearance, for example.

Physically configuring the *outer* surface of a molded article is the physical approach by Appellant to diffuse light. Disturbing the otherwise smooth outer surface creates innumerable angles to diffract light and give a diffused or frosted appearance. Etching, microreplication, and other physical techniques are amply explained in the specification as the physical manner to achieve a matte finish with tactile texture on the outer surface of the molded plastic article.

Appellant invented a molded thermoplastic product which employs *both* the frost colorant in the form of light-diffusing particles and an etched pattern to add

tactile texture and a matte finish appearance to the **outer** surface of the molded thermoplastic product. Appellant is entitled to allowance of his claims on appeal.

The Office has refused to see the distinction between an **inner** peripheral wall portion of Patent '173 and an **outer** surface of a molded thermoplastic product. In doing so, the Office ***gives no weight to the word outer as an adjective for surface.***

Appellant does not dispute that "roughened face" 4 of container 1 of Patent '173 is a **surface**. But it most assuredly is NOT an **outer** one. Otherwise, where is the **inner** surface of container 1 of Patent '173? Inside the bulk of the body 2 of container 1? Then, it is no longer a surface at all.

The Office has not given ANY weight to the modifier "outer" as a locator for that portion of the surface upon which Appellant has chosen to etch a pattern to create a tactile texture and a matte finish by physical technique.

Appellant does not need to describe what is done with his **inner** surface of the molded thermoplastic article, because *he does not care* about that surface. He cares about the **outer** surface, the one which consumers pick up and handle on the grocery store shelf. It is the **outer** surface upon which the etched pattern is made that matters, because that outside surface, *not the inside* of the shampoo bottle, is the surface which the consumer grabs up in the wet shower stall. The Office has ignored the claim limitation about tactile texture *entirely*.

Patent '173 describes an opaque film container. Appellant's claims call for his light-diffusing particles to add diffused translucency. The Office has ignored the claim limitation about diffused translucency *entirely*.

This is an anticipation rejection.

Appellant and the Office fundamentally disagree about whether a roughened face of an **inner** peripheral wall portion of a molded container can anticipate an etched pattern on an **outer** surface of a molded plastic article to provide tactile texture. IT CAN NOT.

Appellant and the Office fundamentally disagree about whether an opaque film container can anticipate a diffusely translucent molded plastic article. IT CAN NOT.

Appellant's Claims 1-4, 6, 8-10, 13 and 16-18 are novel U.S. Pat. No. 5,384,173.

2. Claim 15 was rejected under § 103(a) using U.S. Pat. No. 5,384,173.

Claim 15 depends from Claim 1. Claim 15 adds details about the average maximum particle size of the light-diffusing particles not present in Claim 1.

If this appeal has merit for allowance of all the other claims for the reasons explained above, then Claim 15 does as well.

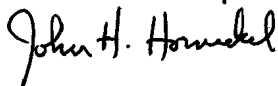
It should also be noted that because Patent '173 teaches toward a totally opaque film container, Appellant's diffusely translucent product is unobvious over it. Particle size does play a role in the selection of Appellant's frost colorant. But no one in the art would look to Patent '173 that demands opacity for its photo film container in order to find the right particle sizes for a frost colorant of light-diffusing particles to make a diffusely translucent product.

Appellant's Claim 15 is patentable over U.S. Pat. No. 5,384,173.

3. Conclusion

Appellant's Claims 1-4, 6, 8-10, 13 and 15-18 are allowable over Patent '173. Appellant respectfully requests the Office to be directed to issue a Notice of Allowance for Claims 1-4, 6, 8-10, 13 and 15-18.

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CLAIMS APPENDIX

1. A molded thermoplastic product comprising a thermoplastic resin molded to have an outer surface having a matte finish with an etched pattern having depressions ranging from about 0.1 μ m to about 100 μ m to add tactile texture and matte finish appearance to the thermoplastic product and a frost colorant present in the thermoplastic product ranging from about 0.01 to about 15 parts by weight of thermoplastic resin, wherein the frost colorant comprises light-diffusing particles to add diffused translucency to the thermoplastic product.

2. The product of Claim 1, wherein the outer surface is located in one area of the product to provide a different matte finish appearance from the remainder of the product.

3. The product of Claim 1, wherein the product is molded from a thermoplastic resin that is transparent, semi-transparent, or translucent.

4. The product of Claim 3, wherein the thermoplastic resin is selected from the group consisting of polyethylene terephthalate (PET); cyclohexanedimethanol-modified PET (PETG); styrene acrylonitrile copolymer (SAN); general purpose styrene (GPS); polycarbonate (PC); and combinations thereof.

6. The product of Claim 1, wherein the light-diffusing particles are present in the thermoplastic product ranging from about 0.2 to about 5 parts by weight of thermoplastic resin and comprises any form of powders, fibers, whiskers, platelets, flakes, aggregates, agglomerates or mixtures of these.

8. The product of Claim 1, wherein the etched pattern has depressions ranging from about 0.5 μ m to about 10 μ m.

9. The product of Claim 8, wherein etched pattern has a surface area comprised of lands and depressions and wherein the ratio of depressions to lands in the surface area can range from about 1 to about 90 percent.

10. The product of Claim 9, wherein the ratio of depressions to lands in the surface area can range from about 50 to about 80 percent.

13. The product of Claim 1, wherein the product is in a useful form selected from the group consisting of packaging, containers, cosmetics, housewares, toys, outdoor furniture, computer and printer housings, jewel boxes, vases, light fixtures, backlighting, signs, buttons, and personal electronic products.

15. The product of Claim 1, wherein the light-diffusing particles have an average maximum particle size of about 0.1 to about 200 microns.

16. The product of Claim 1, wherein the light-diffusing particles are selected from the group consisting of naturally occurring calcium carbonates, ground or fiber calcium sulfates; silicates; talc; kaolin; mica flakes, platelets and pearls; natural silicas; fumed silicas; titanates; barium sulfate; sulfides; metallic oxides; aluminum diboride flakes; inorganic fibers; single crystal fibers; short fibers; organic flatting agents; and mixtures of any of the foregoing.

17. The product of Claim 16, wherein the light-diffusing particles are barium sulfate.

18. The product of Claim 7, wherein the etched pattern is microreplicated.

EVIDENCE APPENDIX

None

10/677,713 Appeal Brief
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RELATED PROCEEDINGS APPENDIX

None